

**METHOD AND APPARATUS FOR DETERMINING  
PROTECTION TRANSMISSION UNIT ALLOCATION**

**ABSTRACT**

Protection transmission unit allocation, such as STS# in a SONET/SDH network utilizing time slot interchange on the working path, may be determined by disseminating connection information, connection identification information, and a prioritization scheme, to nodes on the network and allowing them to deterministically allocate protection transmission units to connections on the protection cycle. Network elements forming physical or logical rings may thus ascertain the location on protection for a given connection without requiring protection unit allocation to be disseminated from a central controller. Since each node is starting with the same connection information and running the same priority determination, each will end up with the same result and will know where to place and find connections on protection. Aspects of the invention may be employed for example in a SONET/SDH based network, a mesh network, or other type of network with dedicated protection paths and transmission allocation on those protection paths.